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POINT OF VIEW

OPTIMIZING CONNECTED, RESILIENT SUPPLY CHAINS

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Introduction

In 2024, companies in the manufacturing and supply chain space will likely benefit from significant opportunities due to record government investment. Examples include the CHIPS Act and Inflation Reduction Act in the U.S., and a £4.5 billion investment in strategic manufacturing sectors in the U.K. At the same time, with ongoing supply chain interference causing costly disruption to manufacturing operations, manufacturers are focused on finding ways to increase supply chain resiliency. Universal interest in Generative AI (GenAI) has fueled new solutions with the potential to solve many of the challenges facing manufacturers while maximizing the benefit from industry investment—in fact, GenAI is embedded across all of Deloitte's Top 5 Trends for the manufacturing and supply chain industry in 2024.

With investment in the right digital and GenAI-powered technology, manufacturers of all sizes, from smaller organizations to large global companies such as Schneider Electric, can build a connected supply chain with the insight and confidence to adapt quickly. Robust, scalable, and intelligent solutions such as ServiceNow's workflow automation platform can help manufacturers

embed resiliency into their supply chains and increase collaboration between suppliers and manufacturers, mitigating risk and minimizing disruptions. Lindsey Berckman presented Deloitte's five key manufacturing industry trends for 2024. Ajay Chavali and Allen Hackman highlighted the importance of standardization and collaboration via technology in building supply chain resilience. Ken Engel shared Schneider's strategy to its digital transformation.

PRESENTERS

Lindsey Berckman, Principal, Deloitte Consulting LLP

Ajay Chavali, Managing Director, Deloitte Consulting LLP

Allen Hackman, AVP/General Manager, Manufacturing Industry Vertical, ServiceNow

Ken Engel, Senior Vice President, Internet Giants, Schneider Electric

Moderator: Robert Schoenberger, Editor in Chief, IndustryWeek



Deloitte has identified five major trends emerging from a manufacturing industry landscape rife with unprecedented opportunity and significant ongoing challenges.



Improving supply chain resiliency is a key focus for manufacturers.



Collaboration is a foundational element to drive resilience and agility in the supply chain.

Key takeaways

Deloitte has identified five major trends emerging from a manufacturing industry landscape rife with unprecedented opportunity and significant ongoing challenges.

For the manufacturing and supply chain industry, 2024 offers a continued opportunity for growth. Record government investment worldwide in manufacturing and supply chain, such as the CHIPS Act and Inflation Reduction Act in the U.S. and the £4.5 billion investment by the U.K. government in strategic manufacturing sectors, have created significant momentum around innovation, fostering new opportunities (including new jobs) for manufacturing businesses.

However, the industry should push forward in the face of headwinds that have plagued manufacturers and supply chains for the past several years—and will likely continue in 2024. Addressing product stagnation, labor scarcity, and quality matters remains a high priority, but the introduction of new tools, driven by technology advances such as GenAI, offers great potential for solving these challenges. Those manufacturers that have identified ways to leverage both existing resources and new processes, and to take advantage of AI-driven digital

technology, will likely be better positioned to overcome these headwinds and move forward with greater speed and agility.

Over the past year, GenAI has matured significantly as the industry has gained greater understanding of GenAI's capabilities and how to use GenAI ethically—though there are still many unknowns. With growing opportunities for leveraging GenAI in the business, it is critical for manufacturing businesses to identify the best and most effective use cases for leveraging GenAI to yield the greatest return on investment.

“It's creating new space for new market entrants—and even new fields—to grow and mature over time, which will be really important for the industries in this space.”

LINDSEY BERCKMAN

Principal, Deloitte Consulting LLP

Robust investment and continued headwinds are driving five key trends for the manufacturing and supply chain industry in 2024, all of which are enhanced by GenAI capabilities:



Navigating persistent talent obstacles. Incorporating new digital tools can improve talent recruiting. To help ease resource strain, manufacturers can consider digitalizing knowledge from retirees and working with partners to build and upskill the talent pipeline.



Smart factory and the journey toward the industrial metaverse. Increasing digitalization and a shift to a smart factory approach, including the industries metaverse, can help improve agility, resilience, and efficiency.



Supply chain digitalization for enhancing performance and resilience. The benefits of digital transformation for factories also apply to the supply chain.



Aftermarket services as a potential differentiator. Manufacturers are investing in digital technologies that can create new and enhanced aftermarket offerings that could lead to revenue-generating opportunities, enhanced customer loyalty, upselling and cross-selling opportunities, and a competitive advantage in general.



Product electrification and decarbonization. Increased investment in net-zero-enabling solutions can foster innovation and change in manufacturing and supply chain companies.

Improving supply chain resiliency is a key focus for manufacturers

While supply chain approaches have evolved significantly over the past few years, there is still room for improvement. Supply chain problems are ongoing and create extremely expensive disruptions to manufacturing operations.

Manufacturers are now prioritizing supply chain resiliency, focusing resources on analyzing supply chains, identifying bottlenecks, and determining how to apply technology to help mitigate risk, increase collaboration, and maintain security across the entire chain.

Risk—understanding it, assessing it, and managing it—is key to improving supply chain resiliency. The quicker the response to risk, the lower the impact. However, having disconnected systems, functions, and locations creates chaos and results in a lag in response time.

Advancements in technology have enhanced solutions that help with proactive risk identification and management in the end-to-end supply chain. These are connected solutions that:



Take into account data from multiple sources across the supply base



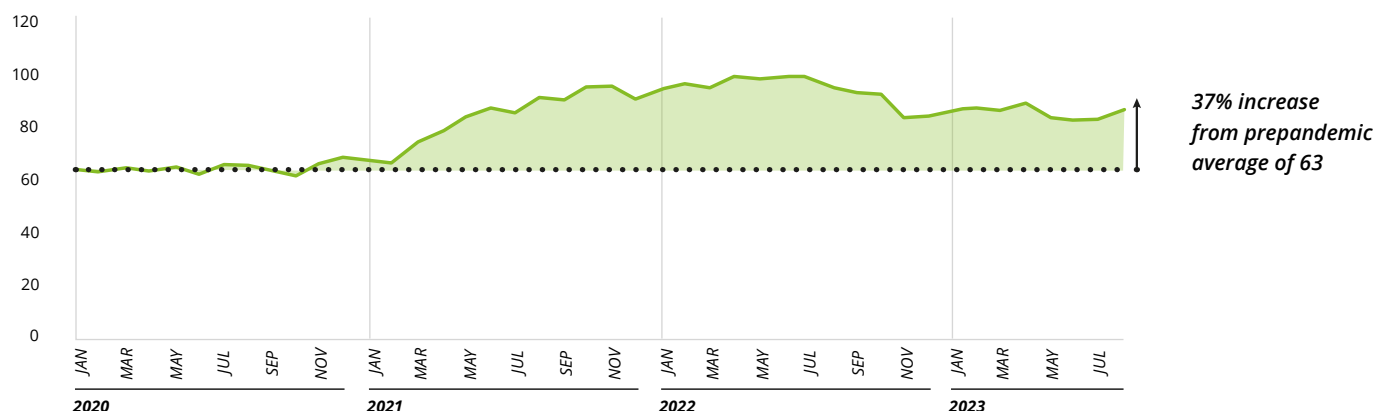
Aggregate information in a centralized single source of truth



Apply intelligence to help predict and alert on matters before they occur

Average lead time for production materials

Average lead time (in days)



Note: The pre-pandemic average was calculated from lead time values taken from January 2015 to December 2019.

Source: Deloitte analysis of the Purchasing Managers' Index reports published by the Institute for Supply Management.

With increased digitization has come an onslaught of cybersecurity attacks, especially on operational technology (OT) infrastructure. The impact of a successful attack deep into the supply base is driving increasing need for cybersecurity capabilities to be incorporated into the product itself, across platforms, and in different organizational areas as new products are brought to market.

In addition to connected systems, standardizing on a common and proven aggregation and predictive analytics system, such as ServiceNow, can avoid many of the cybersecurity matters that stem from multiple disparate systems having to connect to one another.

Employing a common, trusted, and scalable platform for data collection and management also supports collaboration among all supply chain stakeholders by reducing data-sharing friction and customization requirements.



"It's a combination of making the right type of digital technology investments, building processes around that, and then refining them over a period of time ... continually improving your ability to sense risk and the ability to react to it is what we found is an effective way to manage what we're seeing in the marketplace."

AJAY CHAVALI

Managing Director, Deloitte Consulting LLP

Capabilities of the connected supply chain

	SC Optimization	Connected SCM	360° Control Tower	ESG & Sustainability
APP STORE	Continuous optimization of supply chain networks to increase overall productivity and cost efficiency	Management of complex networks, consisting of suppliers, carriers, and plants	Continuous tracking of signals across all processes for 360° transparency	Continuous screening for compliance with supply chain due diligence
CAPABILITIES	<ul style="list-style-type: none"> Dynamic Network Optimization Tactical Network Optimization Integrated Improvement Tracking Interactive Visualization of Transport Networks 	<ul style="list-style-type: none"> Stakeholder Enablement and Training Quality Management with External Partners Continuous Optimization of Supply Chain Processes Master Data Management 	<ul style="list-style-type: none"> Real-Time Supply Chain Monitoring End-to-End Performance Management Supply Chain Risk Monitoring Data-driven Optimization with Artificial Intelligence 	<ul style="list-style-type: none"> n-Tier Risk Analysis 360° Supply Chain Illumination CO2-Tracking & Optimization of the Ecological Footprint Circular Economy
BENEFITS	<ul style="list-style-type: none"> 2-6 w. Runtime reduction 9-12% Outbound transport costs reduction ~10% Total logistics costs reduction 	<ul style="list-style-type: none"> 13% Improving the delivery performance throughout the supply chain 43% Improvement of data quality for more effective supply chain management 	<ul style="list-style-type: none"> 5-10% Inventory savings 9-12% Stock reduction without risk increase 	<ul style="list-style-type: none"> 100% Conformance of the supply chain with legal guidelines 10-15% Reduction of ecological footprint

CASE STUDY

German Automotive Original Equipment Manufacturer (OEM)

The supply chain disruptions of the COVID-19 pandemic that began in early 2020 created and exacerbated challenges in the automotive industry. To address those challenges, one German automotive OEM worked with Deloitte to find a solution that would provide increased transparency across the end-to-end supply chain and intelligent analytics to improve risk mitigation.

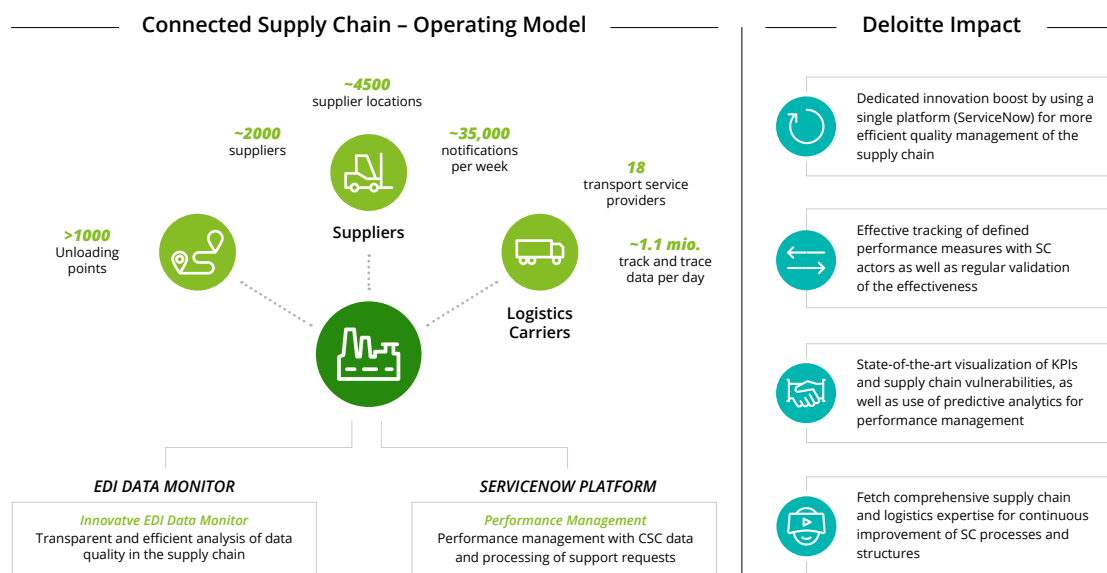
To achieve these goals, the team decided to leverage the ServiceNow platform, not only because it offered the technology required, but also because ServiceNow is a well-known, capable, and widely used technology across the industry.

ServiceNow provided the ability to collect data not just from the OEM, but also from several links downstream in the supply chain, bringing together

all the information into a single source. Intelligent analysis on the aggregated data and significantly improved visibility in the end-to-end supply chain made it possible to gain valuable insights through a common dashboard, allowing the OEM and its suppliers to effectively mitigate risk.

With the scalable, robust “Connected Supply Chain” platform in place, the integration across manufacturers and suppliers enabled the OEM to know where its incoming supplies were at any given time, improving asset utilization and quality management. Digitalization fostered greater collaboration with suppliers, fostering continuous improvement across operations, while standardizing on the ServiceNow platform made it easier to maintain system cybersecurity.

Capabilities of the connected supply chain



Collaboration is foundational to drive resilience and agility in the supply chain

Technology that can gather information and apply intelligence to notify operators of potential problems is a critical component in improving supply chain resiliency. However, alerts alone are often not enough. Manufacturers should also have systems in place to understand and correctly react to notifications.

Tools such as easy-to-understand dashboards that present curated insights based on data gathered from across the end-to-end supply chain can help manufacturers and supplier partners more effectively identify and execute mitigation strategies.

A proven portal also offers the ability to qualify and onboard suppliers, drive sales, provide service through 24/7 AI-powered chatbots in real time, share and track customer cases, and more. The increased collaboration provided by these capabilities in turn increases visibility,

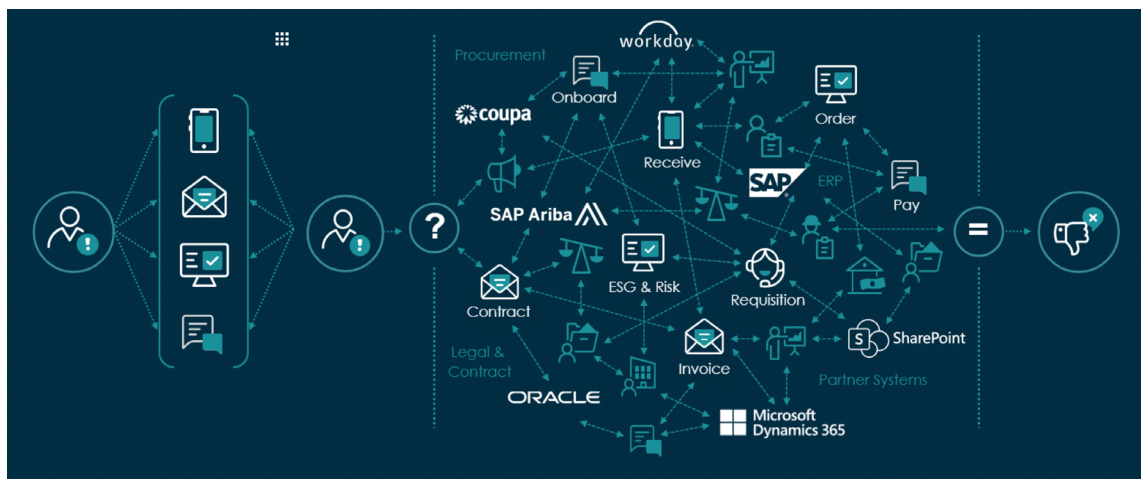
flexibility, and agility. Enabling relevant information to flow with ease between suppliers and manufacturers improves proactive risk mitigation, ultimately reducing disruptions and creating a more resilient supply chain.

“ Collaboration is the foundation. To have a resilient and agile connected supply chain, you’ve got to be able to communicate and collaborate with your ... suppliers, with the transportation providers, even with your customers ... Without that, it just doesn’t work. ”

ALLEN HACKMAN

AVP/General Manager, Manufacturing
Industry Vertical, ServiceNow

Disconnection creates chaos



CASE STUDY



Schneider Electric runs five different supply chain types for different customer needs. Over the past decade, Schneider's investment in digital transformation has made its supply chains significantly more resilient, agile, and sustainable.

With sustainability core to Schneider's purpose and mission, it decided to prioritize sustainability in its supply chain along with its digitalization efforts. This further enhanced and accelerated its digital transformation.

Schneider now has five World Economic Forum advanced lighthouse factories around the world, three of which are Sustainability Lighthouses. The company reached this significant achievement by investing not only in technology, but also in its people. A critical component to Schneider's successful digital transformation was the company's focus on upskilling direct labor and support staff, thereby creating a digital culture within its factories and distribution centers.

A key component of Schneider's digital transformation success is investment in training

In addition, Schneider recognizes the importance of supplier partners. As part of its digital transformation, Schneider spent time with suppliers, identifying each one's vulnerabilities and constraints. Schneider mapped the feedback into a database linked to an algorithm that generated a simple and standard plan for every part. Schneider works closely with suppliers as partners to improve and invest in a more resilient and future-proof supply chain.



"How resilient you are depends upon the amount of trust, dependability, and robustness you have in your supplier partners."

KEN ENGEL

Senior Vice President,
Internet Giants, Schneider Electric

Biographies

Connect with each speaker on LinkedIn



Lindsey Berckman

Principal, Deloitte Consulting LLP



Lindsey leads Deloitte's US Aerospace & Defense (A&D) practice and is also a Smart Manufacturing leader in Deloitte's industrial manufacturing sector, with more than 16 years of experience serving at the intersection of production, operations, and technology in the Consulting practice. With a broad range of experience in our aerospace & defense, industrials, and automotive sectors, Lindsey helps our clients shape their digital transformation roadmaps, investing in solutions built for scale, focused on delivering value, and designed to transform legacy manufacturing processes through digital technologies and AI/ cognitive insights.

Lindsey was a key player in launching Deloitte's Smart Manufacturing use cases and key assets and is highly engaged with our ecosystem partners focused on the A&D sector. Lindsey works across the Deloitte functions to bring comprehensive thinking to challenges—by leveraging digital technologies and engaging multifaceted teams, she drives transformational change that cuts across all realms of the digital enterprise.



Ajay Chavali

Managing Director, Deloitte Consulting LLP



Ajay is a managing director at Deloitte US in the Product Engineering & Development practice. Ajay leads Deloitte's Commercial Aerospace & Defense Advanced Air Mobility market segment. Ajay has led organizational transformations and successfully executed global programs across North America, Europe, Japan & Australia collaborating with Senior Corporate Executives at leading organizations in the Aerospace & Defense, Maritime, Hi-Tech, Semiconductor and Semi-equipment industries.

Ajay is a published thought leader and speaker in the areas of Digital Transformations, Innovation & Product Development, Digital Thread and Digital Twin. Ajay earned his MBA in Finance and International Business from the University of Chicago Booth School of Business and his MS in Mechanical Engineering from the University of Maryland.



Allen Hackman

AVP/General Manager, Manufacturing Industry Vertical, ServiceNow



As Area Vice President of the Manufacturing Industry vertical at ServiceNow, Allen brings over 20 years of experience helping organizations transform and digitize their operations. He has developed and executed IT strategies to align IT with business strategies in order to generate maximum value from technology investments.



Ken Engel

Senior Vice President, Internet Giants, Schneider Electric



Ken has over 34 years of Supply Chain Management experience and 30 years with Schneider Electric. He has a diverse background of executive level Supply Chain and Business leadership positions as well as global experience working across North America, China and Asia Pacific. Ken has proven to be a key leader in Schneider Electric's award-winning supply chain transformation and mission: To STRIVE to be the most agile, innovative, planet- and customer-centric supply chain.

In April 2023, he assumed the role of Senior Vice President, Internet Giants. In this role he is responsible for Business Development and Supply Chain performance of some of the largest customers in our North American business. Prior to this role, Ken led the Supply Chain Operations for all North America businesses during a period of tremendous growth. Under his leadership, the supply chain has fostered resiliency, agility and flexibility while weathering significant market disruption due to the global pandemic. In his tenure, Schneider Electric has been named one of Fortune magazine's Best Workplaces in Manufacturing and Production in the U.S. four years running and is ranked #2 on the Gartner Top 25 Supply Chains globally. As a part of an Impact Company, Ken has been instrumental in supporting sustainable operations in North America, garnering recognition in Sustainability by the Manufacturing Leadership Council in 2022 and contributing to the 2021 Most Sustainable Company recognition from Corporate Knights.

Ken holds a bachelor's degree in Industrial Management from Wayne State College, and an Executive MBA from Xavier University in the United States.

Continue the conversation

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[ServiceNow's website](#)

[Schneider Electric's website](#)

[Deloitte and ServiceNow for Manufacturing website](#)

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